8-10-2001

WR Grace & Co v. Environmental Prot. Agcy.

Filed August 10, 2001

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

Nos: 99-5662 & 00-3302
(Consolidated)

W.R. GRACE & CO,
Petitioner

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,
Respondent

On Petitions for Review of Orders of the
United States Environmental Protection Agency

Argued: September 27, 2000

Before: MANSMANN, ALITO and AMBRO, Circuit Jud ges

(Opinion filed: August 10, 2001)

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OPINION OF THE COURT

AMBRO, Circuit Judge.

Two cases are before us. Case No. 99-5662 is a petition for review of a July 29, 1999 order (the "July 29 Order" or "Order") issued by the United States Environmental Protection Agency (the "EPA") to W.R. Grace & Co. ("Grace") pursuant to the emergency provisions of the Safe Drinking Water Act ("SDWA"), 42 U.S.C. S 300i(a). Case No. 00-3302 is also a petition for review, this time of a Statement of Work Grace was required to submit under the EPA's July 29 Order. The petitions were consolidated by order of this Court on July 6, 2000. For the reasons noted below, we vacate and remand the EPA's July 29 Order. Thus we need not address the issues raised in the second petition for review.

I. Background Facts

This case involves a water supply hazard at the Dye Water Conditioning Plant (the "Dye Plant" or"Plant") in

Lansing, Michigan. The Dye Plant is one of two water treatment plants owned and operated by the Lansing Board of Water & Light (the "Lansing Board" or "LBW&L") that supplies drinking water to the City of Lansing. The Dye Plant is designed to operate and treat groundwater ("influent" water) through a disinfection process known as "chloramination," in which ammonia and chlorine are added to the water to form chloramines that inactivate bacteria.

A plume of ammonia originating at a fertilizer plant owned by Grace entered the Saginaw aquifer from which the Dye Plant draws its water. The ammonia traveled from a smaller aquifer located below the Motor Wheel Disposal Site (but above the Saginaw aquifer) where Grace and other local industries disposed of wastes from their respective plants. On June 10, 1986, the Motor Wheel Disposal Site was placed on a list of hazardous waste sites to be cleaned up pursuant to section 105 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. S 9605. Grace joined with Goodyear, Textron, and the Lansing Board in several agreements to engage in long-term study and cleanup of a wide range of chemicals at the Motor Wheel Disposal Site pursuant to CERCLA. However, no agreement was made among these parties to engage in a CERCLA cleanup of the Saginaw aquifer that had become contaminated with excess ammonia originating from the Motor Wheel Disposal Site.

In 1997, the Lansing Board became increasingly concerned about the danger posed by the ammonia plume to its Dye Plant wells located closest to the Motor Wheel Disposal Site. As a precautionary measure, the Lansing Board removed from service ten drinking water wells located closest to the ammonia plume. The loss of these wells constituted approximately 12% of the Dye Plant's total capacity. Both parties acknowledge that the Lansing Board is able to meet its current drinking water production demands without these ten wells. However, the Lansing Board claims that it may need to replace this lost production capacity in the event of a severe drought or the loss of further wells to contamination from the ammonia plume. As of the date of oral argument in this case, the

Lansing Board was monitoring twenty-two drinking water wells for possible ammonia contamination.

On May 4, 1998, the Michigan Department of Environmental Quality notified the Safe Drinking Water Branch of the EPA of its concern that excess ammonia influent to the Dye Plant would cause nitrification that could compromise the Lansing public's health. The Michigan Department acknowledged that there was"no existing State or Federal Maximum Contaminant Level for ammonia, and no corresponding health effects information for ammonia."1 Nonetheless, it expressed concern that the ammonia level permitted at the Motor Wheel Disposal Site -- 34 milligrams per liter ("mg/l") -- was a "taste and odor level set for aesthetics only" that would not prevent leaching of ammonia into the Saginaw aquifer at levels that could cause excess nitrification at the Dye Plant. It therefore referred the problem to the EPA's Safe Drinking Water Branch to consider approaches for cleanup of the Saginaw aquifer with a "stricter clean-up level (stricter than 34 mg/l) for ammonia" pursuant to CERCLA. In a memorandum dated October 5, 1998, the Safe Drinking Water Branch concurred in the Michigan Department's view that excess ammonia could lead to excess nitrification and microbial growth that could cause noncompliance with a number of Federal and State regulations and pose a threat to the public's health. The Safe Drinking Water Branch concluded that the 34 mg/l standard would be insufficient to protect the Lansing public drinking water system and that an appropriate ammonia cleanup standard should be set at 1.75 mg/l.

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1. The EPA has issued a "lifetime health advisory" of 30 milligrams per liter. See United States Environmental Protection Agency, Drinking Water Standards and Health Advisories, Summer 2000, at 8. A health advisory is an "estimate of acceptable drinking water levels for a chemical substance based on health effects information." It is "not a legally enforceable Federal standard, but serves as a technical guidance to assist Federal, state, and local officials." Id. at iii. A lifetime health advisory provides "[t]he concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for a lifetime of exposure." Id. at iv.

In a report dated January 20, 1999, an outside consultant hired by the Lansing Board concluded that excess ammonia at the Dye Plant would encourage bacteria growth and increase problems with excess chloramines, nitrates, nitrites, lead, and copper, all of which may threaten the public's health. The report attacked the 34 mg/l standard used to clean up the Motor Wheel Disposal Site and urged that a stricter standard be used with respect to the Saginaw aquifer because "[a]ny amount of excess ammonia over existing background levels (0.1-0.5 mg/l ammonia as nitrogen) will impact the current treatment and operational practices at the Dye [Plant]." The report further noted that if the influent ammonia levels were not kept low or within narrow limits, new processes would have to be developed at the Dye Plant to remove the ammonia completely. These processes would add complexity to the Plant operations, require capital expenditures, and increase operations and maintenance costs.

The Safe Drinking Water Branch later amended its October 5, 1998 memorandum recommending an ammonia cleanup standard for the Saginaw aquifer. It stated that in light of information obtained from meeting with the Lansing Board's consultant and a review of its report, the Safe Drinking Water Branch would revise its recommendation for the ammonia cleanup standard from 1.75 mg/l to the more stringent standard of 0.5 mg/l. That cleanup standard was subsequently incorporated into an emergency order issued by the EPA on February 26, 1999, requiring that Grace alone reduce the ammonia levels in the Saginaw aquifer to background levels (about 0.5 mg/l) and replace the drinking water capacity lost by the Lansing Board from shutting down ten of its drinking water wells.

In response to the EPA's order, Grace proposed forming a technical committee of all interested parties to review the issues and evaluate cooperatively the available options for protecting the operations of the Dye Plant. On April 12, 1999, the EPA agreed to withdraw its first order and to issue a new order based upon the findings of the newly-formed Saginaw Aquifer Technical Evaluation Team ("SATET"), which would include technical representatives from Grace, the EPA, the Lansing Board, and the Michigan Department of Environmental Quality.

SATET was empaneled to evaluate four approaches to protect the public from the health hazards associated with excess ammonia in the Saginaw aquifer. SATET's mission statement listed those approaches as follows:

> Approach 1- "Control of Saginaw Aqui fer ground-water ammonia-nitrogen contamination incident to potentially impacted BW&L wells by pump and treat measures."
>
> Approach 2- "Limitation of influent ammonia-nitrogen at the Dye Water Conditioning Plant (WCP) to approximately 1 mg/l (plus/minus approximately 0.2 mg/l), including via measures arising from Option 1 above. This may also involve a well field management program, including routine monitoring and characterization of the water produced from specific BW&L wells."
>
> Approach 3- "Wellhead treatment of impac ted LBW&L wells (either individually or combined, i.e. intermediate treatment), by ammonia control technology."
>
> Approach 4- "Supplemental treatment at t he LBW&L Dye WCP for ammonia control."

In less technical terms, the four approaches can be summarized as follows. Under Approach 1, water is pumped from the Saginaw aquifer in an attempt to "capture" the ammonia plume and remove it from the water before it affects the Lansing Board's wells. Approach 2 contains two alternative methods for keeping ammonia concentrations below 1.0 mg/l and preventing spikes in excess of 0.2 mg/l. The first alternative, known as "blending," involves reordering the sequence in which wells are turned on so that water from wells with higher levels of ammonia may be blended with water from wells with low ammonia concentrations. The second alternative involves shutting down wells affected by elevated ammonia ("mothballing") and replacing them with newly drilled wells of similar or greater capacity ("well-replacement"). Approach 3 involves treatment technologies known as ion exchange,

breakpoint chlorination, and air stripping. These could be applied at individual wells or groups of wells to treat ammonia before the water is pumped to the Dye Plant. Approach 4 involves applying these same treatment processes at the Dye Plant to reduce or eliminate ammonia in the influent water already at the Plant.

On May 14, 1999, SATET produced a draft report evaluating the four approaches to protect the public from ammonia contamination in the Saginaw aquifer. In its discussion of Approach 1, SATET's draft report recommended that a program of data collection, including new monitoring wells, and groundwater modeling be conducted with the goal of confirming capture of the ammonia plume in the Saginaw aquifer. If capture could not be confirmed, the data would be used to decide where additional extraction wells would be needed. The report acknowledged that new extraction wells might take as long as two years to be installed and become operational. In the meantime, SATET recommended considering other options to protect the Lansing Board's capability of producing water in sufficient quantity for its customers, which would be the thrust of Approaches 2, 3, and 4.

In its discussion of Approach 2, SATET's draft report stated that blending could "help mitigate" an operational problem at the Plant, but that making decisions on which wells to operate could be complicated, and accurate prediction of the resulting ammonia concentration would require continuous monitoring of incoming ammonia concentrations both at the well head and at the Plant. The draft report concluded that mothballing of selected wells with elevated ammonia levels would remove them from the well sequence and any effect on the water supply, but might not prevent contaminants from migrating to the next tier of wells in the field. The report therefore recommended that mothballed wells be replaced with new wells in a new location far from potential contamination. The influent from the new wells would keep ammonia concentrations low and could be used effectively in an altered well sequence to dampen ammonia spikes. Finally, the draft report recommended that the Lansing Board refrain from pumping the wells that it had shut down in 1997 and that it begin

regular monitoring of all wells to confirm that ammonia concentrations would not rise to levels that would cause concern.

The draft report indicated that Approaches 3 and 4 might be effective, but noted limitations if Approach 4 were used to treat ammonia concentrations greater than 1.0 mg/l. The report also expressed the Lansing Board's opposition to Approaches 3 and 4 because of public perceptions about the quality of source water. Ultimately, the draft report concluded that the data did not indicate a need for Approaches 3 or 4 in the near future.

On May 21, 1999, SATET issued a final report recommending that Approach 1 be adopted to protect the Dye Plant and that Approaches 2, 3, and 4 be applied as supplements to Approach 1. SATET concluded that

> [t]he ultimate resolution of the Cooperating Parties[']
> concerns regarding the Saginaw Aquifer and LBW&L
> operations lies in remediation of the Saginaw Aquifer.
> While aquifer remediation is proceeding, in the short
> term, other options can be considered to protect the
> LBW&L capability to produce safe water in sufficient
> quantity for its customers. This is the thrust of
> Approaches 2, 3, and 4. Each of these approaches
> would be supplements to the treatment options
> discussed in Approach 1.

The final report differed from the draft report by adding the following concerns about Approach 2. It explained that blending would allow contaminants to enter a drinking water system and that the "LBW&L staff stated that the knowing acceptance of contaminants, however diluted, in the drinking water transmission system, would be unacceptable, and would not be recommended to LBW&L top management or Board of Commissioners." The report further explained that the "LBW&L staff stated that mothballing with replacement wells, in conjunction with Approach 1 (plume containment and capture and treatment of contaminated water from extraction wells) would likely be recommended to LBW&L top management and Board of Commissioners." In addition, the report noted that, in order to avoid complicated control requirements associated with

a blending approach, "cleanup of [the] aquifer is essential," and that "[r]emoval of ammonia from the well field before it impacts any production wells, as discussed in Approach 1, may be preferable to the complex operational changes required to manage incoming ammonia concentrations."

The parties dispute whether Grace concurred in SATET's final recommendation for implementation of Approach 1. The EPA maintains that SATET's recommendation was unanimous and included Grace's approval. However, in a July 7, 1999 memorandum from Grace's counsel to William E. Muno, the Director of the EPA's Superfund Division, Grace concurred in SATET's recommendation for Approaches 1 and 2, but reserved an objection to the implementation of Approach 1 pursuant to the emergency provisions of SDWA rather than the EPA's long-term cleanup powers under CERCLA.

In any event, the EPA issued a second emergency order -- the July 29 Order -- purportedly based upon SATET's findings and recommendations. The July 29 Order requires that Grace engage in a long-term cleanup of the Saginaw aquifer by installing, by January 1, 2003, extraction wells or equivalent technology that will reduce ammonia levels in the capture zone of the drinking water wells to 1.2 mg/l. Although the Order does not explicitly say, this mandate appears to require that Grace use Approach 1 to perform the long-term cleanup of the Saginaw aquifer. In addition to long-term cleanup, the July 29 Order requires that Grace take immediate interim action ensuring that the"combined influent ammonia concentrations of the Dye Plant do not exceed 1.2 mg/l, or fluctuate by more than 0.2 mg/l within a 24-hour period." As best we can tell, these interim requirements are lifted from Approach 2 of the SATET report.

On September 2, 1999, Grace filed a petition for review in this Court challenging the EPA's authority to issue the July 29 Order pursuant to the emergency provisions of SDWA. This first petition has been docketed as Case No. 99-5662.

Grace also filed with the EPA a Draft Interim Measures Statement of Work ("draft Statement of Work") on September 2, 1999. It outlined a plan to use a blending

process to ensure that the influent water entering the Dye Plant after being combined from all wells contains ammonia below levels mandated by the interim measures requirement in the July 29 Order. On September 28, 1999, the EPA responded with "draft comments" to Grace's draft Statement of Work that rejected Grace's blending approach and ordered Grace to ensure that water from each production well individually meets the ammonia limitation specified in the July 29 Order's interim measures mandate. Grace subsequently revised its draft Statement of Work to comply with the EPA's comments, but preserved the right to challenge this requirement as an unwarranted material change of Grace's obligation under the July 29 Order in a second petition for review, Case No. 00-3302.

II. Jurisdiction & Standard of Review

We have jurisdiction over Grace's petition for review of the July 29 Order pursuant to section 1448(a)(2) of SDWA, which provides for judicial review of any final agency action by the Administrator of the EPA. See 42 U.S.C. S 300j-7(a)(2). The applicable standard of review is whether the EPA's action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. S 706(2)(A); see Southwestern Pa. Growth Alliance v. Browner, 121 F.3d 106, 111 (3d Cir. 1997). In applying this standard, our "only task is to determine whether[the EPA] considered the relevant factors and articulated a rational connection between the facts found and the choice made." Growth Alliance, 121 F.3d at 111 (alteration in original).

However, we must remand to the EPA if "the record before the agency does not support the agency action, if the agency has not considered all relevant factors, or if the reviewing court simply cannot evaluate the challenged agency action on the basis of the record before it." C.K. v. N.J. Dep't of Health & Human Servs., 92 F.3d 171, 182 (3d Cir. 1996) (quoting Fla. Power & Light Co. v. Lorion, 470 U.S. 729, 744 (1985)). Moreover, we may not accept appellate counsel's post hoc rationalizations for agency action. Put another way, an agency's order must be upheld on the same basis articulated in the order by the agency itself. See Burlington Truck Lines, Inc. v. United States, 371

U.S. 156, 168-69 (1962); SEC v. Chenery Corp. , 332 U.S. 194, 196 (1947); Furnari v. Warden, Allenwood Fed. Corr. Inst., 218 F.3d 250, 257 (3d Cir. 2000); Marshall v. Lansing, 839 F.2d 933, 943-44 (3d Cir. 1988)." `Even if the evidence in the record, combined with the reviewing court's understanding of the law, is enough to support the order, the court may not uphold the order unless it is sustainable on the agency's findings and for the reasons stated by the agency.' " Moret v. Karn, 746 F.2d 989, 992 (3d Cir. 1984) (quoting Kenneth Culp Davis & Richard J. Pierce, Jr., Administrative Law Treatise S 14:29 (1980)). Moreover, while a decision of less than ideal clarity will be upheld if the agency's path may be reasonably discerned, see Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983), we will not search the record to find support for the agency's decision unless its "conclusions [are] . . . readily apparent" so that "broad inferential leaps of logic [are] not needed to reach the determinations." Marshall, 839 F.2d at 944; accord Furnari , 218 F.3d at 257.

III. Emergency Power Under SDWA

Section 1431(a) of SDWA authorizes the EPA Administrator to take action necessary to protect the public's health from an imminent and substantial endangerment created by contaminants in a public water system or an underground source of drinking water. See 42 U.S.C. S 300i(a). However, action by the EPA is only authorized when state and local authorities have not acted first. See id.

The legislative history to section 1431(a) demonstrates that Congress intended "to confer completely adequate authority to deal promptly and effectively with emergency situations which jeopardize the health of persons" using public water systems. H.R. Rep. No. 93-1185 (1974), reprinted in 1974 U.S.C.C.A.N. 6454, 6487. Congress intended a broad reading of the term "imminent" to allow the EPA "the time it may take to prepare administrative orders or moving papers, to commence and complete litigation, and to permit issuance, notification, implementation, and enforcement of administrative or court orders to protect the public health." Id. at 6488. Moreover,

the EPA may take action to prevent even a risk of harm to a public drinking water system. See id."[F]or example, the Administrator may invoke this section when there is an imminent likelihood of the introduction into drinking water of contaminants that may cause health damage after a period of latency." Id.

In United States v. Price, 688 F.2d 204 (3d Cir. 1982), we addressed the nature of the EPA's emergency authority under section 1431 of SDWA and under section 7003 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. S 6901 et seq.2 We explained that "[b]y enacting the endangerment provisions of RCRA and SDWA, Congress sought to invoke the broad and flexible equity powers of the federal courts in instances where hazardous wastes threatened human health." Price, 688 F.2d at 211. Moreover, "these provisions have enhanced the courts' traditional equitable powers by authorizing the issuance of injunctions when there is but a risk of harm, a more lenient standard than the traditional requirement of threatened irreparable harm." Id.; see also Trinity Am. Corp. v. EPA, 150 F.3d 389, 399 (4th Cir. 1998) (recognizing that section 1431 is applicable when the EPA demonstrates an imminent "risk of harm"); United States v. Waste Indus., Inc., 734 F.2d 159, 165 (4th Cir. 1984) (concluding that section 7003 is not specifically limited to addressing an "emergency"). Thus, it is well established from the legislative history and case law that SDWA confers on the EPA broad authority to address present and future harm that may substantially threaten the health of persons who use public water systems.

Yet, the EPA's emergency power is not without limitation. The same House Report that expresses an intent to confer broad emergency authority on the EPA also explains that, "[i]n using the words `imminent and substantial

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2. Using language similar to that found in SDWA, section 7003 of RCRA authorizes the Federal Government to bring suit"to restrain" certain activities, "or to take such other action as may be necessary," when handling, storage, treatment, transportation or disposal of hazardous waste "may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. S 6973.

endangerment to the health of persons,' the Committee intends that this broad administrative authority not be used when the system of regulatory authorities provided elsewhere in the bill could be used adequately to protect the public health." H.R. Rep. No. 93-1185 (1974), reprinted in 1974 U.S.C.C.A.N. 6454, 6487-88. "Nor is the emergency authority to be used in cases where the risk of harm is remote in time, completely speculative in nature, or de minimis in degree." Id. at 6488.

In Price, we also noted limitations on the EPA's power to act. Price, 688 F.2d at 214. We observed that, under section 7003 of RCRA, the EPA may "authorize[ ] the cleanup of a site, even a dormant one, if that action is necessary to abate a present threat to the public health or the environment[,]" but that it "could not order the cleanup of a waste disposal site which posed no threat to health or the environment." Id. Because the "authority conferred . . . by section 1431 of SDWA is quite as broad as that conferred by RCRA," id., we believe the limitations under the latter provision are equally applicable to the former. As is the case with RCRA, the EPA cannot order cleanup under section 1431 of SDWA when there is no threat to the public's health.

IV. Application of Law to this Case

In applying the requirements of SDWA to the facts of this case, we find that the EPA's July 29 Order falls short of the mark. More specifically, the EPA has failed to provide (A) a rational basis for its determination that a cleanup standard of 1.2 mg/l is necessary to protect the health of persons who may use Lansing's public drinking water system, and (B) a rational basis for its finding that remediation of the aquifer through Approach 1 is necessary to protect the health of those persons.3

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3. We have carefully considered whether the EPA would ever have the authority to order long-term remediation of an aquifer pursuant to section 1431 of SDWA when alternative interim measures are sufficient to abate the immediate threat to the public. While there exists substantial support for the view that, under those circumstances, the

A. The Ammonia Standard (1.2 mg/l)

The July 29 Order mandates a reduction of ammonia levels to 1.2 mg/l, but fails to provide a rational explanation for why the EPA settled on this standard. In support of the 1.2 mg/l standard, that Order makes the following findings of fact:

> SATET conducted a technical study of the Dye WCP in order to determine how much influent ammonia, as nitrogen, the Dye WCP could handle and still maintain adequate protection of human health and comply with current and future drinking water regulations. SATET concluded that the maximum amount of influent ammonia, as nitrogen, that the Dye WCP can handle and still adequately protect human health, as well as comply with current and future drinking water regulations, is 1.2 milligrams per liter (mg/l), as nitrogen.

Our colleague in dissent appears to accept these findings of fact on face value when she states, for example, that "[t]he Technical Evaluation Team concluded that the maximum amount of influent ammonia, as nitrogen, that the Dye

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EPA should order only interim measures under SDWA and pursue long-term remediation pursuant to CERCLA, we do not decide this issue here. Instead, we vacate the EPA's July 29 Order only on the narrower grounds noted above.

We have also considered whether the July 29 Order makes a sufficient finding of "imminent and substantial endangerment." The EPA states in a conclusory fashion at the outset of the July 29 Order -- but not under its formal Findings of Fact -- that ammonia in the Saginaw aquifer "may present an imminent and substantial endangerment to the health of persons receiving drinking water from the Lansing Board of Water and Light." Although we do not limit our review to the EPA's formal Findings of Fact in this case, we caution that ordinarily we"may not uphold the order unless it is sustainable on the agency's findings," Moret, 746 F.2d at 992, and that for the sake of clarity it would be better advised to make a finding of "imminent and substantial endangerment" under its formally articulated Findings of Fact. We also caution the EPA not to assume that the inclusion of these "magic words," without any support in the record to demonstrate that the finding is not arbitrary and capricious, will be sufficient to sustain an order under SDWA.

Water conditioning plant can handle and still adequately protect human health, as well as comply with current and future drinking water regulations, is 1.2 milligrams per liter, as nitrogen." However, for the reasons explained below, we believe this statement mischaracterizes the record.

An examination of the SATET report reveals no technical study by SATET to determine the maximum level of ammonia the Dye Plant could handle without jeopardizing the public's health. In fact, the 1.2 mg/l standard appears to have been expressed as an unquestioned baseline in SATET's mission statement regarding Approach 2.

At oral argument, the EPA referred us to section 3.1 of the SATET report for the technical study allegedly performed by SATET. Our best guess is that the EPA was referring to the following passage:

> The SATET met in Lansing on April 8, 15, and 29, 1999. A technical workshop meeting which included the SATET and an additional technical representative from W.R. Grace & Co. was held in Lansing on May 5, 1999. In each of the meetings the SATET endeavored to understand the data available, recommend additional data collection needed, and discuss the alternative ways the mission could be met.

This passage in no way explains how or why SATET settled on a 1.2 mg/l ammonia standard. It certainly cannot support the finding in the July 29 Order that "SATET conducted a technical study of the Dye WCP in order to determine how much influent ammonia, as nitrogen, the Dye WCP could handle and still maintain adequate protection of human health and comply with current and future drinking water regulations."

The EPA has also directed our attention to section 4.1 of the SATET report as support for the 1.2 mg/l ammonia standard. Section 4.1 states as follows:

> The goal of Approach 2 is to minimize the ammonia concentration at the Dye Water Conditioning Plant (WCP) to approximately 1.0 mg/l (plus or minus approximately 0.2 mg/l), including measures arising

> from Approach 1. Approach 2 may also include a well field management program, including routine monitoring and characterization of the water produced from specific Lansing Board of Water & Light (LBW&L) wells. The water treatment target has been identified as a maximum ammonia concentration of 1.0 mg/l plus or minus 0.2 mg/l. An incoming ammonia concentration no greater than 1.0 mg/l will ensure that the plant can meet the maximum disinfectant residual levels required for chloramines. Spikes in influent ammonia concentration should be limited to 0.2 mg/l, an increase that can easily be handled by the plant based on existing fluctuations in ammonia concentrations.

Despite the EPA's suggestion to the contrary, this passage fails to provide support for its conclusion that a 1.2 mg/l standard would be necessary to protect the Lansing public's health. SATET's finding that an incoming ammonia concentration no greater than 1.0 mg/l "will ensure that the plant can meet its disinfectant levels" is not a finding that no greater ammonia concentration can be tolerated by the Dye Plant without endangering the public's health. Likewise, SATET's conclusory finding that the Dye Plant can "easily handle" spikes limited to 0.2 mg/l in no way determines whether the Dye Plant could handle spikes greater than 0.2 mg/l. Section 4.1 therefore fails to demonstrate a rational basis for settling on the 1.2 mg/l standard.

With no evidence that a technical study was ever performed by SATET or the EPA to determine the appropriate ammonia standard necessary to protect the public's health, and no other explanation in the July 29 Order for the EPA's decision, we have no choice but to conclude that the EPA arbitrarily and capriciously settled on the 1.2 mg/l standard.4

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4. We are aware that the EPA and SATET had before them a desktop study by a consultant hired by the Lansing Board that concludes that ammonia concentrations over existing background levels (0.1-0.5 mg/l) would affect the current treatment and operational practices at the Dye Plant. However, for the following reasons we conclude that this report

B. Remediation of the Saginaw Aquifer Through Approach 1

The EPA has also failed to articulate a rational basis for its conclusion that Approach 1 is necessary to protect the health of the Lansing public. The July 29 Order's only finding of fact in support of remediation of the Saginaw aquifer as provided in Approach 1 states:

> SATET also concluded that the MWDS [Motor Wheel Disposal Site] ammonia contamination in the Saginaw aquifer will cause the Dye WCP to experience influent ammonia concentrations above 1.2 mg/l, which will compromise the WCP's ability to protect human health and comply with current and future drinking water regulations. The SATET concluded that the only way to avoid this risk was through the removal of excess ammonia from the Saginaw aquifer.

Unfortunately, it is hardly clear from SATET's report that the only way to protect the public's health is through the removal of excess ammonia. Rather, it appears that there was sharp disagreement among the members of SATET as to whether this form of remediation would be necessary. On appeal, the EPA refers us to the following passage in the Executive Summary of SATET's final report:

> The ultimate resolution of the Cooperating Parties[']
> concerns regarding the Saginaw Aquifer and LBW&L
> operations lies in remediation of the Saginaw Aquifer.
> While aquifer remediation is proceeding, in the short
> term, other options can be considered to protect the
> LBW&L capability to produce safe water in sufficient
> quantity for its customers. This is the thrust of

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does not provide a rational basis for the July 29 Order. First, neither the
July 29 Order nor SATET's final report purports to rely upon the recommendation in that report. Second, the report provides no technical data or research demonstrating that ammonia must be kept at those background levels to protect the Lansing public's health. Finally, the report provides no rational explanation for the EPA's decision to settle on
a 1.2 mg/l standard. Indeed, if the report is accurate, the EPA should have ordered a 0.5 mg/l standard in its July 29 Order (as it did in its first order issued on February 26, 1999).

> Approaches 2, 3, and 4. Each of these approaches would be supplements to the treatment options discussed in Approach 1.

The fact that the ultimate resolution of the parties' differences lies in a recommendation for Approach 1 does not mean that Approach 1 is "the only way" to protect the Lansing public's health as the EPA's July 29 Order maintains.

Morever, we need more than a conclusory statement from SATET to determine that the EPA did not arbitrarily and capriciously settle on Approach 1 as the only method sufficient to protect the public health. In the draft report, SATET's discussion of Approach 1 ended with a recommendation for a program of data collection (including new monitoring wells) and groundwater modeling to be conducted with the goal of confirming capture of the ammonia plume. If capture could not be confirmed, the draft report continued, the data would be used to decide where additional extraction wells would be needed.

In its discussion of Approach 2, SATET's draft report stated that mothballing of selected wells combined with a well-replacement strategy could be an effective method to protect the Lansing public's health. It explained that mothballing the wells with elevated ammonia levels would remove them from the well sequence and any effect on the water supply. The report also stated that well-replacement would prevent contaminants from migrating to the next tier of wells in the field when mothballed wells were shut down.

On May 21, 1999, SATET issued its final report recommending that long-term remediation under Approach 1 be adopted to protect the Dye Plant. It recommended using Approaches 2, 3, and 4 only as supplements to Approach 1. Yet the final report provided no rational explanation for recommending remediation of the Saginaw aquifer under Approach 1 when SATET had previously concluded that a combined mothballing and well-replacement strategy under Approach 2 would be an effective method for keeping ammonia concentrations below 1.0 mg/l (plus/minus 0.2 mg/l).

The discussion of Approaches 1 and 2 in the final report remained largely the same as in the draft report except for two conclusory statements concerning Approach 2. The first was that, "[i]n order to avoid . . . complicated control requirements [under Approach 2], cleanup of[the] aquifer [under Approach 1] is essential." The second stated that "[r]emoval of ammonia from the well field before it impacts any production wells, as discussed in Approach 1, may be preferable to the complex operational changes required to manage incoming ammonia concentrations [under Approach 2]." SATET provided no reasons for reaching these conclusions in the final report that were not made in the draft report, and we can find no additional findings of fact to back up this change in course. Moreover, we note that the "complicated control requirements" and "complex operational changes" referred to are problems the draft SATET report attributed to the blending technique under Approach 2. SATET's final report failed to explain how the problems associated with blending would undermine the value of the mothballing/well-replacement technique that the draft report previously recommended as an effective solution. If mothballing and well-replacement under Approach 2 would be effective, it can hardly be said that removal as provided in Approach 1 is essential.

The only explanation for SATET's change in recommendation between the draft and final report appears to be the Lansing Board's opposition to anything other than Approach 1. In its discussion of Approach 2, the final report explains that a blending approach "would allow contaminants to enter a drinking water system." The very next sentence explains that "[d]uring SATET meetings, LBW&L staff stated that the knowing acceptance of contaminants, however diluted, in the drinking water transmission system, would be unacceptable, and would not be recommended to LBW&L top management or Board of Commissioners." The inference is that the Lansing Board's staff pushed SATET not to recommend a blending process under Approach 2 because blending would allow some contaminants to enter the drinking water system.

The Lansing Board's staff also stated at SATET meetings that Approaches 3 and 4 "will likely not be acceptable to

the LBW&L for reasons such as adverse public perceptions about the quality of source water, the precedent of use of formerly contaminated water for drinking water supply, and the precedent of using drinking water supply wells as pollutant extraction wells." They explained, however, that "mothballing with replacement wells, in conjunction with Approach 1 (plume containment and capture and treatment of contaminated water from extraction wells) would likely be recommended to LBW&L top management and Board of Commissioners." Not surprisingly, the final report recommends complete remediation under Approach 1 as the "ultimate resolution of the Cooperating Parties[']' concerns regarding the Saginaw acquifer and LBW&L operations." The report recommends Approaches 2, 3, and 4 only as "supplements to the treatment options discussed in Approach 1."

We are left with the firm impression that SATET's support for Approach 1 in the final report is primarily based on the Lansing Board's opposition to any of the other approaches. Such a recommendation is not rationally based on the facts SATET found concerning ammonia contamination in the Saginaw aquifer and the availability of remedies to protect the public's health. We therefore vacate the July 29 Order because it fails to provide a rational explanation for concluding that remediation of the Saginaw aquifer through Approach 1 is necessary to protect the Lansing public's health.5

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5. Grace has argued that SATET changed its recommendation in the final report in response to pressure from the Safe Drinking Water Branch of the EPA. It appears that the Chief of the Safe Drinking Water Branch, Charlene J. Denys, sent an e-mail to her staff on May 12, 1999 expressing concern that the SATET group was concentrating more on the short-term capacity/treatment of the Lansing public water system as opposed to the long-term remediation of the Saginaw aquifer. She indicated that she would expect any proposal from SATET to include the long-term remediation of the Saginaw aquifer in addition to the short-term capacity issue and the effect of ammonia on the Dye Plant and its distribution system. We note, however, that the Denys e-mail was sent prior to SATET's completion of even the draft report. We therefore cannot be certain that SATET's change in recommendation between the draft report and the final report was influenced by her e-mail. Instead we observe that SATET's final report itself does not provide a rational explanation for its change in recommendation and conclude that the EPA's decision in reliance upon that report is therefore arbitrary and capricious.

V. Conclusion

For the reasons discussed above, we vacate the EPA's July 29 Order as arbitrary and capricious. In so doing, we need not reach the following issues raised by Grace: (1) whether the EPA erroneously failed to consider the ability of local authorities to take action to protect the public health; (2) whether the EPA improperly relied upon the 1996 Source Water Assessment Amendment to SDWA for authority to issue the July 29 Order; and (3) whether the EPA's interpretation of SDWA to authorize long-term cleanup is unconstitutional because it denies Grace a full and fair opportunity to challenge the EPA's post-issuance amendments to the July 29 Order. Moreover, because we are vacating the July 29 Order, we need not address issues raised in Grace's second petition, Case No. 00-3302, challenging requirements imposed by the EPA when approving Grace's Statement of Work submitted under that Order. The second petition is therefore denied as moot.

MANSMANN, dissenting:

I respectfully dissent from the majority opinion because I would hold that the EPA's July 29 Order, though perhaps suffering from poor draftsmanship, nonetheless passably fulfills the requirements of the SDWA. I do not disagree with the majority opinion's presentation of the law proscribing the EPA's power to order cleanup under section 1431 when there is not any threat to the public's health. I would emphasize, however, the highly deferential standard of review in this case. The high degree of deference we are to accord the EPA is a cornerstone to the EPA's power, enshrined in the SDWA, "to protect the public, health, the environment, and public water supplies from the pernicious effects of toxic wastes." United States v. Price, 688 F.2d 204, 214 (3d Cir. 1982). Consequently, I have resolved that the EPA's actions here were neither arbitrary nor capricious, and that the EPA satisfactorily demonstrated that the ammonia contamination in the Saginaw aquifer endangers the public's health.

As the majority explains, a court must uphold any EPA actions taken pursuant to the Act unless the action is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. S 706(2)(A). This standard of review presumes the validity of agency action. Frisby v. HUD, 755 F.2d 1052, 1055 (3d Cir. 1985); Ethyl Corp. v. EPA, 541 F.2d 1, 34 (D.C. Dir. 1976)."The ultimate standard is a narrow one," under which the court is not "to substitute its judgment for that of the agency." Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971). Our sole task in reviewing the EPA action, as the majority points out, "is to determine whether [the EPA] considered the relevant factors and articulated a rational connection between the facts found and the choice made." Southwestern Pa. Growth Alliance v. Browner, 121 F.3d 106, 111 (3d Cir. 1997)(quoting Baltimore Gas & Elec. v. Natural Res. Def. Coun., 462 U.S. 87, 105 (1983). Unlike the majority, however, I am satisfied that the EPA considered the relevant factors and articulated a basic rational connection.

I am particularly mindful that we are a reviewing court, experts in the law, and not expert environmental

toxicologists examining data ab initio. All the more reason to apply the presumption of correctness to the EPA."A reviewing court `must generally be at its most deferential' when reviewing factual determinations within an agency's area of special expertise." Southwestern Pa. Growth Alliance, 121 F.3d at 117 (internal citation omitted). An agency's evaluation of specific evidence forming the basis of its decision is "entitled to respectful consideration" by the reviewing court. Tri-Bio Labs v. United States , 836 F.2d 135, 142 (3d Cir. 1987). Thus, where the agency decision turns on issues requiring the exercise of scientific judgment, as it does here, the court "must look at the decision not as a chemist, biologist or statistician that we are qualified neither by training, nor experience to be, but as a reviewing court exercising our narrowly defined duty of holding agencies to certain minimal standards of rationality." Ethyl Corp., 541 F.2d at 36-37.

I would uphold the agency action here because I would find that the EPA's actions, in accordance with a complex statute are sufficiently rational so as to preclude us from substituting our judgment for that of the EPA.1 See e.g. Chemical Mfrs. Ass'n v. Natural Res. Defense Council , 470 U.S. 116, 125 (1985). I agree with the EPA that the SATET report2 provides sufficient support for the EPA's findings that a cleanup standard of 1.2 mg/l is necessary to protect the health of persons who may use that drinking water system, and that remediation of the aquifer through Approach 1 is necessary to protect the health of those persons. This would remain my position even if some other figure or another approach were ultimately shown to adequately protect the public drinking water.

The evidence shows the following regarding the SATET investigation and report. In March 1999, Grace agreed to participate in a technical evaluation review committee to

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1. The majority states that we accept the finding of 1.2 miligrams per liter "on face value." Instead, we accept this finding because we conclude that it is rationally based.

2. Grace's active participation in SATET is conspicuous, though I hesitate to suggest that Grace has in any way waived its right to protest the SATET report.

identify and evaluate options to protect the Saginaw aquifer. Accordingly, Grace formed SATET. SATET meetings were attended by representatives of Grace, the EPA, Michigan Department of Environmental Quality and Lansing Water. SATET conducted a technical study of the Dye Water conditioning plant in order to determine how much influent ammonia, as nitrogen, the Dye Water conditioning plant could handle and still maintain adequate protection of human health and comply with current and future drinking water regulations. The Technical Evaluation Team concluded that the maximum amount of influent ammonia, as nitrogen, that the Dye Water conditioning plant can handle and still adequately protect human health, as well as comply with current and future drinking water regulations, is 1.2 milligrams per liter, as nitrogen.

SATET also concluded that the Disposal Site ammonia contamination in the Saginaw aquifer will cause the Dye Water conditioning plant to experience influent ammonia concentrations above 1.2 mg/l, which will compromise the Water Conditioning Plant's ability to protect human health and comply with current and future drinking water regulations. SATET concluded that the only way to avoid this risk was through the removal of excess ammonia from the Saginaw aquifer.

On April 12, 1999, the EPA withdrew an emergency administrative order under Section 1431 of the Safe Drinking Water Act that it had issued to Grace on February 26, 1999. The EPA withdrew the Order because Grace agreed to form SATET. On May 26, 1999, SATET sent to the EPA and to Grace specific findings and recommendations concerning both the remediation of the Saginaw aquifer and the protection of Lansing Water's Dye Water Conditioning Plant. The EPA then re-issued an emergency administrative order under Section 1431 of the Safe Drinking Water Act based upon SATET's findings and recommendations.

With respect to the technical study of Lansing Water's Dye Water Conditioning Plant, in a relatively short period of time, SATET examined and reviewed a substantial corpus of information concerning the ammonia problem. As the SATET report states, "The SATET met in Lansing on April 8, 15, and 29, 1999. A technical workshop meeting which

included the SATET and an additional technical representative from W.R. Grace & Co. was held in Lansing on May 5, 1999. In each of the meetings the SATET endeavored to understand the data available, recommend additional data . . . needed, and discuss alternative ways the mission could be met." Moreover, "[t]o develop an understanding of Dye [plant] operations, the SATET received briefings from Dye [plant] engineering personnel. Key information gained through these briefings included an understanding of the order of operation of the [Dye plant] wells."

Specifically regarding the amount of ammonia that the plant could safely tolerate, the report states:"An incoming ammonia concentration no greater than 1.0 mg/l will ensure that the plant can meet the maximum disinfectant residual levels required for chloramines. Spikes in influent ammonia concentration should be limited to 0.2 mg/l, an increase that can easily be handled by the plant based on existing fluctuations in ammonia concentrations." The report concluded that the Dye plant could handle 1.2 mg/l of ammonia and still provide safe drinking water in sufficient quantities to its customers. Similarly, with respect to the adoption of the plan to remove excess ammonia from the Saginaw aquifer, the SATET report states that "[t]he ultimate resolution of the Cooperating Parties [sic] concerns regarding the Saginaw aquifer and [Dye plant] operations lies in the remediation of the Saginaw Aquifer." Although this standard may have been reached by virtue of a compromise, it is nonetheless valid for the EPA, using its expertise and experience, to set forth a standard which is generally supported but does not have a specific and identical source in the record.

I agree with the majority that "for the sake of clarity [the EPA] would be better advised to make a finding of `imminent and substantial endangerment' under its formally articulated findings of fact." The SDWA's plain language reads that the Administrator may act "upon receipt of information that . . . an underground source of drinking water may present an imminent and substantial endangerment to the health of persons." 42 U. S. C. S 300i. This language is mirrored in the EPA order. Moreover, when

faced with a problem of statutory construction, we are bound as a federal court to show "great deference to the interpretation given the statute by the officers or agency charged with its administration." EPA v. National Crushed Stone Ass'n, 449 U.S. 64, 83 (1980) (quoting Udall v. Tallman, 380 U.S. 1, 16 (1965)). "[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." Chemical Mfrs. Ass'n v. Natural Res. Defense Council, 470 U.S. 116, 125 (1985). To uphold an agency interpretation, a court need only find that the agency's understanding of a complex statute "is a sufficiently rational one to preclude a court from substituting its judgment for that of [the agency]." Id. Permitting the EPA the understanding that it may include the phrase "may present an imminent and substantial endangerment to the health of persons" where it did within the order is surely rational, though with good reason, we may prefer other placement.

As we have held previously, in enacting the endangerment provisions of the SDWA,

> Congress . . . sought to invoke nothing less than the full equity powers of the federal courts in the effort to protect public health, the environment, and public water supplies from the pernicious effects of toxic wastes. Courts should not undermine the will of Congress by either withholding relief or granting it grudgingly.

United States v. Price, 688 F.2d at 214. (emphasis added).3

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3. Just three years ago, the Fourth Circuit, deciding a case, Trinity American v. U.S. EPA, 150 F.3d 389 (4th Cir. 1998), under the same provision of the SDWA, held similarly:

> So that EPA can act promptly and effectively when a threat to public health is imminent, courts must ensure that the agency's power under the Act remains "relatively untrammeled."

Id. at 395 (citation omitted). The Second Circuit is also in accord. See United States v. Hooker Chemicals and Plastics, 749 F.2d 968, 989 (2d Cir. 1984).

A True Copy:
Teste:

Clerk of the United States Court of Appeals
for the Third Circuit